January 7, 1982

MEMORANDUM FOR CORRESPONDENTS

We have been notified of an error in one of the "Narrative Summaries of Accidents Involving U.S. Nuclear Weapons, 1950-1980", released May 15, 1981. The U.S. Navy P-5M crash on September 25, 1959 actually occurred in the Pacific Ocean, about 100 miles west of the Washington-Oregon border, rather than in Puget Sound, off Whidbey Island, Washington.

The error occurred as researchers reviewed original accident reports to prepare narrative summaries for publication. The report for this accident listed only the aircraft's departure base, and the researchers concluded that the accident happened nearby. (A later P-5M crash off Whidbey island did not involve nuclear weapons.)

The error was confirmed by Defense Nuclear Agency as a result of news media queries from the Pacific Northwest.

A corrected copy of that accident narrative is attached for your files.

-- End --

CORRECTED COPY

January 7, 1982

September 25, 1959/P-5M/Pacific Ocean, off Washington-Oregon Coast

A U.S. Navy P-5M aircraft, assigned to NAS Whidbey Island, Washington, crashed in the Pacific Ocean about 100 miles west of the Washington-Oregon border. It was carrying an unarmed nuclear antisubmarine weapon containing no nuclear material. The weapon was not recovered.

CORRECTED COPY

DEPARTMENT OF DEFENSE

NARRATIVE SUMMARIES OF ACCIDENTS INVOLVING U.S. NUCLEAR WEAPONS 1950-1980

Attached are unclassified summaries describing the circumstances surrounding 32 accidents involving nuclear weapons. Also attached is the Department of Defense (DOD)/Department of Energy (DOE) definition of "accident" used in researching this project.

Twenty-six of these summaries were first released by the Air Force in 1977; another was prepared following the Titan II explosion in Arkansas in September 1980. Those previously-released summaries are marked with a figure "1"; in some cases they include new material made available as a result of more recent research.*

There never has been even a partial inadvertant U.S. nuclear detonation despite the very severe stresses imposed upon the weapons involved in these accidents. All "detonations" reported in the summaries involved conventional high explosives (HE) only. Only two accidents, those at Palomares and Thule, resulted in a widespread dispersal of nuclear materials.

Nuclear weapons are never carried on training flights. Most of the aircraft accidents represented here occurred during logistic/ferry missions or airborne alert flights by Strategic Air Command (SAC) aircraft. Airborne alert was terminated in 1968 because of:

-- Accidents, particularly those at Palomares and Thule,

-- The rising cost of maintaining a portion of the SAC bomber force constantly on airborne alert, and,

-- The advent of a responsive and survivable intercontinental ballistic missile force which relieved the manned bomber force of a part of its more time-sensitive responsibilities. (A portion of the SAC force remains on nuclear ground alert.)

Since the location of a nuclear weapon is classified defense information, it is Department of Defense policy normally neither to confirm nor deny the presence of nuclear weapons at any specific place. In the case of an accident involving nuclear weapons, their presence may or may not be divulged at the time depending upon the possibility of public hazard or alarm. Therefore, in some of the events summarized here, the fact of the presence of nuclear weapons or materials may not have been confirmed at the time. Furthermore, due to diplomatic considerations, it is not possible to specify the location of the accidents that occurred overseas, except for Palomares and Thule.

Most of the weapon systems involved in these accidents are no longer in the active inventory. Those include the B-29, B-36, B-47, B-50, B-58, C-124, F-100 and P-5M aircraft, and the Minuteman I missile.

With some early models of nuclear weapons, it was standard procedure during most operations to keep a capsule of nuclear material separate from the weapon for safety purposes. While a weapon with the capsule removed did contain a quantity of natural (not enriched) uranium with an extremely low level of radioactivity, accidental detonation of the HE element would not cause a nuclear detonation or contamination. More modern designs incorporate improved redundant safety features to insure that a nuclear explosion does not occur as the result of an accident.

This list of accidents was compiled by DOD/DOE researchers during December 1980-January 1981. The researchers reviewed all available records of the military services and DOE, applying current definitions to determine if an event warranted categorization as an accident.

For example, one event not covered by these narratives was included in a "Chronology of Nuclear Accident Statements," released by DOD in 1968:

"March 18, 1963, Titan (I) Missile Burned in Silo near Moses Lake, Washington."

The researchers found, however, that only a small retrorocket on the missile had accidentally fired. The missile and its warhead were not damaged. That event does not warrant inclusion in a list of accidents involving nuclear weapons.

Another event from the 1968 list, involving a U.S. Navy Terrier missile (January 20, 1966; NAS Mayport, Florida) was not considered to be an accident, but has been categorized as a significant incident. In that incident, a nuclear warhead separated from the missile, and fell about eight feet. The warhead was dented; no other damage occurred.

The other events in this list that were also cited in the 1968 "Chronology....." are identified with a figure "2".**

The events outlined in the attached narratives involved operational weapons, nuclear materials, aircraft and/or missiles under control of the U. S. Air Force, U.S. Navy, or a DOE predecessor agency, the Atomic Energy Commission. The U.S. Army has never experienced an event serious enough to warrant inclusion in a list of accidents involving nuclear weapons. The U.S. Marine Corps does not have custody of nuclear weapons in peacetime and has experienced no accidents or significant incidents involving them.

To the best of our knowledge, this list is complete. Reporting requirements varied among the Services, particularly in the earlier period covered by these narratives, so it is possible but not likely that an earlier accident has gone unreported here. All later events, however, have been evaluated and are included if they fall within the established definition of an accident.

Current as of April, 1981

With some early models of nuclear weapons, it was standard procedure during most operations to keep a capsule of nuclear material separate from the weapon for safety purposes. While a weapon with the capsule removed did contain a quantity of natural (not enriched) uranium with an extremely low level of radioactivity, accidental detonation of the HE element would not cause a nuclear detonation or contamination. More modern designs incorporate improved redundant safety features to insure that a nuclear explosion does not occur as the result of an accident.

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DEFINITION OF AN ACCIDENT

An "accident involving nuclear weapons" is defined as

-An unexpected event involving nuclear weapons or nuclear weapons components that results in any of the following:

--Accidental or unauthorized launching, firing, or use, by U.S. forces or supported allied forces, of a nuclear-capable weapon system which could create the risk of an outbreak of war.

--Nuclear detonation.

--Non-nuclear detonation or burning of a nuclear weapon or radioactive weapon component, including a fully assembled nuclear weapon, an unassembled nuclear weapon, or a radioactive nuclear weapon component.

--Radioactive contamination.

--Seizure, theft, or loss of a nuclear weapon or radioactive nuclear weapon component, including jettisoning.

--Public hazard, actual or implied.

October 11, 1957 / B-47 / Homestead AFB, Florida

The B-47 departed Homestead AFB shortly after midnight on a deployment mission. Shortly after liftoff one of aircraft's outrigger tires exploded. The aircraft crashed in an uninhabited area approximately 3,800 feet from the end of the runway. The aircraft was carrying one weapon in ferry configuration in the bomb bay and one nuclear capsule in a carrying case in the crew compartment. The weapon was enveloped in flames which burned and smoldered for approximately four hours after which time it was cooled with water. Two low order high explosive detonations occurred during the burning. The nuclear capsule and its carrying case were recovered intact and only slightly damaged by heat. Approximately one-half of the weapon remained. All major components were damaged but were identifiable and accounted for.

* 1

February 5, 1958 / B-47 / Savannah River, Georgia

The B-47 was on a simulated combat mission that originated at Homestead AFB, Florida. While near Savannah, Georgia, the B-47 had a mid-air collision at 3:30 a.m. with an F-86 aircraft. Following the collision the B-47 attempted three times to land at Hunter AFB, Georgia, with a weapon aboard. Because of the condition of the aircraft, its airspeed could not be reduced enough to insure a safe landing. Therefore, the decision was made to jettison the weapon rather than expose Hunter AFB to the possibility of a high explosive detonation. A nuclear detonation was not possible since the nuclear capsule was not aboard the aircraft. The weapon was jettisoned into the water several miles from the mouth of the Savannah River (Georgia) in Wassaw Sound off Tybee Beach. The precise weapon impact point is unknown. The weapon was dropped from an altitude of approximately 7,200 feet at an aircraft speed of 180-190 knots. No detonation occurred. After jettison the B-47 landed safely. A three square mile area was searched using a ship with divers and underwater demolition team technicians using Galvanic drag and hand-held sonar devices. The weapon was not found. The search was terminated April 16, 1958. The weapon was considered to be irretrievably lost.

* 1
** 2

November 26, 1958 / B-47 / Chennault AFB, Louisiana

A B-47 caught fire on the ground. The single nuclear weapon on board was destroyed by the fire. Contamination was limited to the immediate vicinity of the weapon residue within the aircraft wreckage.

* 1
** 2

October 15, 1959 / B-52 / KC-135 / Hardinsberg, Kentucky

The B-52 departed Columbus Air Force Base, Mississippi at 2:30 p.m. CST, October 15, 1959. This aircraft assumed the #2 position in a flight of two. The KC-135 departed Columbus Air Force Base at 5:33 p.m. CST as the #2 tanker aircraft in a flight of two scheduled to refuel the B-52's. Rendezvous for refueling was accomplished in the vicinity of Hardinsberg, Kentucky at 32,000 feet. It was night, weather was clear, and there was no turbulence. Shortly after the B-52 began refueling from the KC-135, the two aircraft collided. The instructor pilot and pilot of the B-52 ejected, followed by the electronic warfare officer and the radar navigator. The co-pilot, navigator, instructor navigator, and tail gunner failed to leave the B-52. All four crewmembers in the KC-135 were fatally injured. The B-52's two unarmed nuclear weapons were recovered intact. One had been partially burned but this did not result in the dispersion of any nuclear material or other contamination.

* 1
** 2